Remarks

Support for the claims as amended

The amendments to claims 1 and 25 further define the claim terms "metric value" and "a second

field whose value is a representation of the individual values". The claims' further definition of

5   the term "metric value" is supported by the definition of "metric value" at [0008] of U.S. Patent

Application Publication 2005/0076065 of Applicants' Specification:

> Further, values such as number of hits 115 which are made by combining a set of
> values such that the individual values in the set are lost will be termed herein
> *metric values*. Other examples of such metric values are averages, maxima,
10 minima, modes, and medians (emphasis added).

As for the further definition of "a second field whose value is a representation of the individual

values", see [0032], which states:

> There are many ways of representing the set of values; fundamentally, any
15 technique which can be used to represent a list of values can be used to represent
> a set of values.

Of course, in a list of values, each of the individual values on the list is derivable from the list.

20 **Traversal of Examiner's rejection of the claims under 35 U.S.C. 103 as obvious over the
combination of Bakalash and Lore**

Scope of the amended claims

It should be apparent from the foregoing discussion that the amendments to claims 1 and 25 do

25 not substantially alter the scope of the claims with regard to the prior art. Since that is the case,

the following slightly modified traversal of Examiner's rejection of the claims of the *Submission*

in the RCE applies equally to the claims as amended above.

Claim 1 as currently amended

30 Claim 1 as currently amended reads as follows:

1   1. (currently amended) A method of aggregating a plurality of entries in a table in
2   a database management system into an aggregated entry in the table or another
3   table in the database management system, the method comprising the step of:
4   making the aggregated entry, the aggregated entry representing the
5   plurality of entries and including a first field whose value is a metric value
6   computed from a set of individual values of a field in the plurality of entries and
7   a second field whose value is a representation of the individual values, the metric
8   value having the property that the individual values from which the metric value

9   was computed cannot be derived from the metric value and the representation of
10   the individual values having the property that the individual values are derivable
11   therefrom.

Examiner's rejection of the claims in the Office action of June 23, 2009

In the Office action of June 23, Examiner responds to Applicants' argument in the *Submission*
15   that neither Bakalash nor Lore discloses the "aggregated entry" set forth in claim 1 by
maintaining that Lore does disclose the aggregated entry. The issue between Examiner and
Applicant is thus whether Lore does in fact disclose the claim's aggregated entry. In the
following, Applicant will first discuss Applicants' FIG. 3, which shows an embodiment of the
aggregated entry, and then the portion of Lore which Examiner believes discloses claim 1's
20   aggregated entry.

Applicant's aggregated entry

Applicant's FIG. 3 is discussed beginning at [0031] of Applicants' patent application
publication 2005/0076065.   Page hit roll up table 301's entries are an embodiment of the
25   aggregated entries of claim 1. What distinguishes them from the usual table entries for rolled up
page hit data shown in Applicant's FIG. 1 is that they contain not just the number of hits field
115, which indicates the total number of hits during the time period covered by the table on the
page URL indicated at 113, but also a value 303 which indicates the times at which the hits
occurred during the time period represented by the entry. Two different ways of implementing
30   value 303 are shown in FIG. 3; at 305 is shown a comma list of seconds indicating the times at
which the hits occurred; at 307 is shown a bitmap in which there is a bit for each second in the
period; if the bit for a second is set, a hit occurred at the time indicated by the bit's second.
Examiner will immediately see that the values in number of hits field 115 are embodiments of
the claimed aggregated entry's "metric value" and that the values in field 303 are embodiments
35   of the aggregated entry's "representation of the individual values".

The disclosure of Lore

The first sentence of Lore's *Abstract* provides a broad overview of the technical area with which
Lore is concerned:

40   An aggregation engine for a data warehouse which provides an indexing
             technique which allows the measures in a fact table data entry to be added to the
             appropriate aggregate bucket …

Lore defines an "aggregate bucket" at [0013] as an "internal representation for each aggregated output fact record." As is apparent from the last sentence of paragraph [0248], the "aggregated output fact record" is a record which contains the result of the aggregation. In the terms used in Applicants' claims, the aggregate bucket contains the "metric value" resulting from the aggregation. There is simply no suggestion anywhere in Lore that the value represented by an "aggregate bucket" might be accompanied by anything like the "value [that] is a representation of the individual values" of Applicants' claims 1 and 25.

Detailed rebuttal of Examiner's rejection in her Response to Applicants' argument

In her *Response to Applicant's Argument* in the Office action of June 23, Examiner cites paragraphs 125 and 191 of Lore. Paragraph 125 reads as follows in its entirety:

> **[0125]** The relation table 4 has three primary uses. Firstly, it provides information about the number of aggregate records for each level so that the index table can be populated. Secondly, it computes indexes of detail and aggregate keys that, when combined with the data from the index table, are used to locate the address of the aggregation buckets in the address file and the entries in the memory cache. Thirdly, it provides the list of aggregate records into which a given detail record needs to be aggregated.

Relation table 4 is shown in FIG. 2 of Lore and in detail in FIG. 5. [0125] is part of the description of FIG. 5. FIG. 5 shows two possible candidates for Applicant's aggregated records: level node 40 and detail node 44. Details of the level node are provided at Lore's [0091] and details of the detail node are provided at Lore's [0096].

As is apparent from FIG. 5, [0125]'s "information about the number of aggregate records for each level" is contained in the level nodes, which, as is clear from [0091], contain a code for the aggregate level, the number of detail records that contribute to the level, and indexes to the nodes that contain the aggregate values for that level. As Examiner will immediately see, the level node's number of detail records that contribute to the level is not Applicant's "first field whose value is a metric value", where the value is "computed from a set of individual values of a field in the plurality of entries" and the level node's indexes to the aggregate nodes are not Applicant's "second field whose value is a representation of the individual values".

The other candidate is detail node 44, which embodies [0125]'s "list of aggregate records into which a given detail record needs to be aggregated". As shown in detail at [0096], the detail

node has a key, an indication of the number of aggregates that the detail represented by the node is to be included in, and indexes of the nodes for those aggregates. Again, detail node's number of aggregates is not Applicant's "first field whose value is a metric value" and the detail node's indexes to the aggregate nodes are not Applicant's "second field whose value is a representation of the individual values".

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Since neither level node 40 nor detail node 44 discloses anything like Applicant's "aggregated entry", the disclosure of Lore's [0125] does not support Examiner's rejection of claim 1. As for Lore's [0191], that location discusses Lore's "rolling cache". As set forth there, the "rolling cache" permits an "aggregation entry" to "perform aggregation based only on the input fact records that an aggregation entry has seen so far in its life time in the memory cache". At most, the cited location discloses a technique for producing what Applicant terms the "metric value" of Applicant's aggregation entry. There is certainly no disclosure here of Applicant's "second field whose value is a representation of the individual values".

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Since neither the disclosure of Lore's [0125] nor the disclosure of Lore's [0191] support Examiner's *Response to Applicant's argument"* in the Office action of June 23, Applicant respectfully submits that the combination of Lore and Bakalash does not support Examiner's rejection of claim 1 under 35 U.S.C. 103. Examiner will immediately see that the arguments made above with regard to claim 1 apply equally to the other independent claim, claim 25. Because both independent claims are patentable over Lore and Bakalash, so are all of the dependent claims.

Independent patentability of the dependent claims

Certain of the dependent claims have additional limitations which are not disclosed by the combination of Lore and Bakalash and are consequently patentable in their own rights over the references. For a detailed discussion of the independent patentability of these claims, see page 11 of Applicants' *Submission* for the RCE of 27 May 2009.

Conclusion

Applicants have amended their claims to clarify the meanings of certain of the claim terms and have demonstrated that the claims as amended are fully supported by the Specification as

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originally filed. Applicants have further demonstrated that the combination of Bakalash and Lore does not disclose all of the limitations of independent claims 1 and 25, and that all of the claims are consequently patentable over the references. That being the case, Applicants have satisfied the requirements of 37 C.F.R. 1.111(b) and respectfully request that Examiner continue

5 with her examination, enter the amendment, and allow the claims as amended. No fees are believed to be necessary for this amendment. Should any be, please charge them to deposit account 501315.

                Respectfully submitted,

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